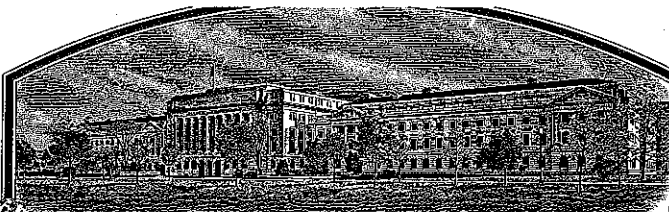


No.

200400169



# THE UNITED STATES OF AMERICA

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**  
**New Zealand Institute for Crop & Food Research Ltd.**

*Whereas*, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

OAT

'126'

*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of September, in the year two thousand and six.*

*Attest:*

  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

  
Secretary of Agriculture



126 Oats

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

NAME OF OWNER New Zealand Institute for Crop & Food Research LTD		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME Groa 126	3. VARIETY NAME 126
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Private Bag 4704 Christchurch, New Zealand		5. TELEPHONE (include area code) +64-3-325-6400	FOR OFFICIAL USE ONLY PVPO NUMBER <b>200400169</b>
		6. FAX (include area code) +64-3-325-2074	
IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Ltd. (Limited)	8. IF INCORPORATED, GIVE STATE OF INCORPORATION	9. DATE OF INCORPORATION	
NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) ProGene LLC Kurt Braunwart 860 S. Crestline Othello, WA 99344			FILING DATE <b>April 5, 2004</b>
			FILING AND EXAMINATION FEES: \$ 3652.00 DATE <b>4/05/2004</b> CERTIFICATION FEE: \$ 768.00 DATE <b>7/28/2006</b>
TELEPHONE (include area code) (509) 488-3977	12. FAX (include area code) (509) 488-5289	13. E-MAIL progene@cbnn.net	14. CROP KIND (Common Name) Oats
GENUS AND SPECIES NAME OF CROP Avena sativa		16. FAMILY NAME (Botanical) Graminaceae	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)	
		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)	
HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.			
Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER <i>Kurt Braunwart</i> ProGene LLC Managing owner as agent for var owners in U.S. & Canada ME (Please print or type) Kurt Braunwart Representative of Applicant		SIGNATURE OF OWNER NAME (Please print or type)	
CAPACITY OR TITLE Managing Owner-ProGene LLC		DATE <b>03/30/04</b>	
		CAPACITY OR TITLE DATE	

application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the seed that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$320 filing fee and \$2,385 examination fee, payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Part applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

200400169

ITEM

- 18a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
  - (2) the details of subsequent stages of selection and multiplication;
  - (3) evidence of uniformity and stability; and
  - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If a new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice*, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety, including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

The first commercial sale of 126 oat was on April 17, 2004 to Connell Grain Growers. The pounds were 10,000 lbs. for them to have forage growers plant to validate the value of the variety as indicated by research trials.

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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## Exhibit A: Origin and breeding History of CROA126

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### Pedigree

**CROA126** was developed by Keith Armstrong of Crop & Food Research, Christchurch, New Zealand, from a cross made in 1994. The cross, (FINLAY//L84-1137,G1), was a combination of a black hulled forage oat parent (Finlay), released in New Zealand as a forage oat cultivar in the early 1990's, and a white hulled genotype, L84-1137,G1, of unknown origin. The population, accession number AS94256, was created and the F1 seed produced in the glasshouse at the Crop & Food Research regional site, 90 Waimumu Road, Gore, South Island, New Zealand. Most subsequent breeding and trait selection, except for crown rust (*Puccinia coronata*), was carried out on the New Zealand Institute for Crop & Food Research Limited, experimental farm, Gerald Street, Lincoln, Canterbury, South Island, New Zealand. More intensive screening for field reactions to crown rust (*Puccinia coronata*) was carried out using specific nurseries for this purpose. These nurseries were planted on the AgResearch experiment farm "Aorangi", at Lockwood Road, Manawatu, North Island, New Zealand. **CROA126** is a sister line to CROA114

### Selection Criteria

**CROA126** is a derivative of AS94256. Two hundred randomly selected F3 panicles were harvested in the summer (February) of 1995, from a single seventeen square metre F2 late spring (October) 1995 sown field plot.

All 200 F3 panicles were threshed separately and sown in the spring (August) of 1996, as single panicle rod rows, each row of 50cm in length. Light selection pressure was applied, discarding only the lines with poorest straw/standing capability and high susceptibility to barley yellow dwarf virus, crown rust (*Puccinia coronata*), and stem rust (*Puccinia graminis*). 1 single F4 panicle was hand harvested from each of the 150 selected plots in February 1997. The F4 panicles were threshed individually. No 'benchtop' selection pressure was applied for grain-hull colour, grain size or grain appearance.

All 150 F4 panicles were re-sown in spring (August) 1997, as single panicle rod rows, each row of 50cm in length. Lines with the poorest straw/standing capability, highest susceptibility to barley yellow dwarf virus and stem rust, and those with narrow leaves were discarded prior to harvesting. Ten single F5 panicles were hand harvested from each of the 75 selected plots in February 1998. Each panicle was threshed separately, selecting five of the best ten panicles for consistency and uniformity of grain-hull color, grain size and appearance for regeneration the following season.

60 of the 75 lines were sown spring (August) of 1998, as five single F5 progeny rod rows, each row of 50cm each in length. Between one and four plots were selected from each family group of 5 progeny rows. Ten F6 panicles were harvested from each of the selected plots in summer (February) 1999. Each panicle was threshed separately,

selecting five of the best ten panicles for consistency and uniformity of grain-hull color, grain size and appearance for regeneration the following season.

All F6 lines were spring sown (August) of 1999 as single row of two metres in length. Moderate selection pressure was applied, selecting superior lines for straw/standing capability, moderate resistance to barley yellow dwarf virus, crown rust (*Puccinia coronata*), and stem rust (*Puccinia graminis*), vegetative plant colour, panicle shape and leaf width. Selected rows were harvested separately as bulks in summer (February) 2000, and prepared for autumn (May) 2000 sowing for seed production. They were also entered into a disease screening nursery (sown October 2000) for crown rust evaluation on the "Aorangi" site in the Manawatu Province. (Other USA and Canadian shuttle nurseries are also evaluated here)

**CROA126** was selected by the breeder in New Zealand as a consistently uniform very late maturing F7 breeding line for intensive trialing in the USA for use as a forage cultivar.

#### Uniformity and Stability

**CROA126** entered Progene LLC replicated forage field trials in Washington State, USA, in the year 2000. From 2001 field testing for its forage production and quality traits commenced in several states along with a parallel system of seed purification and production in USA and New Zealand, and with checks for genetic uniformity and stability.

**CROA126** has remained uniform and stable for five generations, and in excess of 20 formal observations, made across a wide range of cropping environments, autumn (fall) sowing in the southern states, spring sowing in northern States, autumn, winter and spring sowing in New Zealand.

**CROA126** is destined for use as a spring sown cereal forage in the Pacific North West States of USA.

Variant: '126' Oat has been found to be uniform and stable over the past 5 years it has been observed in the U.S. EXCEPT for a variant as follows:

Variant in '126' Oats - The variant is an earlier heading oat with a normal panicle (whorled and spread – not compact like the 126 oat). The plant type of this variant is much more slender and wispy than the 126 oat plant and since it is earlier to head out than 126 oat the variant stands up above the 126 oat canopy for a period of time. The maximum level that we have seen this variant at in a field of production is .2% (2/10<sup>th</sup> of one percent). This variant is not any known type but a genetic variation out of the 126 oat.

20040069

## **Exhibit B Statement of Distinctness**

**CROA126** is most similar to Charisma in plant type and height. Both have small, narrow and compact panicles. Both are semi-dwarfs. The grain hull colour of Charisma is white whereas the grain hull of **CROA126** ranges from tan/brown (under magnification) to black (when viewed with the naked eye), often with a grey tip. The grain colour is influenced by weather conditions during grain maturation. In hot dry conditions the grain hull is likely to be tan/brown, with grey tips. In milder, damper conditions during grain maturation the grain hull is likely to be black, but a grey tip is also likely.

**CROA126** lemma (dorsal view) has nil to few hairs of similar length and width to the basal hairs. This character can be used to differentiate **CROA126** from **CROA114** which has no dorsal hairs. But note these hairs are most likely to be removed during mechanical harvesting and threshing processes. **They will only be noticed when panicles are hand harvested and grain not threshed mechanically.**

BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY

OAT

(Avena spp.)

NAME OF APPLICANT(S)

ProGene

VARIETY NAME OR TEMPORARY DESIGNATION

126

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)

860 S. Crestline  
Othello, WA 99344

FOR OFFICIAL USE ONLY

VPVO NUMBER

2004 00169

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g.  or ) when number is either 99 or less.

1. SPECIES:

1 = SATIVA

2 = BYZANTINA

3 = OTHER (Specify)

2. GROWTH HABIT:

1 = WINTER

2 = SEMIWINTER

3 = SPRING

JUVENILE GROWTH:

1 = PROSTRATE

2 = SEMIPROSTRATE

3 = ERECT

1 = JAYCEE

2 = CLINTLAND 64

3 = CAYUSE

STANDARD VARIETIES

4 = NORLINE

5 = YANCEY

6 = FLORIDA 5

3. MATURITY (50% flowering):

✓

DAYS EARLIER THAN

STANDARD VARIETY

DAYS LATER THAN

STANDARD VARIETY

(6 days later than Charisma)

Season:

1 = VERY EARLY (Jaycee)

4 = LATE (Lodi)

2 = EARLY (Nodaway 70)

5 = VERY LATE (Garry)

3 = MIDSEASON (Clintford)

6 = EXTREMELY LATE (Mackinaw)

4. PLANT HEIGHT (From soil level to top of head):

✓

CM. TALL

CM. SHORTER THAN

(Croa 114)

CM. TALLER THAN

(Charisma)

STANDARD VARIETY

STANDARD VARIETY

5. STEM:

DIAMETER:

1 = FINE (Kherson)

2 = MEDIUM (Clintford)

3 = COARSE (Nodaway 70)

HAIRINESS AT UPPER CULM NODES:

1 = HAIRLESS

2 = HAIRY

MATURE STEM COLOR:

1 = YELLOW

2 = REDDISH

6. LEAF: (Leaf Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the leaf color of the described variety)

CARRIAGE:

1 = DROOPING (Random)

2 = ERECT (Walken)

COLOR:

1 = YELLOW GREEN

2 = LT. GREEN

3 = DK. GREEN

4 = BLUE GREEN

MM. WIDTH (First leaf below flag leaf)

(16.77)

LEAF MARGIN:

1 = GLABROUS

2 = CILIATE

LIGULE:

1 = ABSENT

2 = PRESENT

LEAF SHEATH:

1 = HAIRLESS

2 = HAIRY

7. HEAD:

PANICLE SHAPE:

1 = EQUILATERAL

2 = INTERMEDIATE

3 = SIDE PANICLE (Unilateral)

ATTACHMENT OF LOWER WHORL OF BRANCHES:

(& Compact)

1 = FIRST NODE

2 = SECOND NODE (False node)

PANICLE SIZE:

1 = SMALL (Yancey)

2 = MEDIUM (Walken)

3 = LARGE (Markton)

PANICLE WIDTH:

1 = NARROW (Gopher)

2 = MIDBROAD (Yancey)

3 = BROAD (Nodaway 70)

CM. PANICLE LENGTH

NUMBER OF BRANCHES

NUMBER OF WHORLS OF BRANCHES

POSITION OF BRANCHES:

1 = ASCENDING (Yancey)

2 = SPREADING (Cayuse)

3 = DROOPING (Markton)

4 = PECTINATE (White Tartar)

5 = CONFUSED (Storm King)

## 8. RACHIS:

☐ 1 = RECURVED (Yancey)      ☐ 2 = ERECT (Walken)

☐ 3 ☐ 4 MM. SECOND FLORET RACHILLA SEGMENT LENGTH

☐ 1 SECOND FLORET RACHILLA SEGMENT: 1 = HAIRLESS  
2 = HAIRY

☐ 0 RACHILLA HAIRS: 1 = SHORT 2 = LONG

## 9. SPIKELET:

☐ 3 SPIKELET SEPARATION BY: 1 = ABSCISSION

2 = SEMIABSCISSION

3 = FRACTURE

☐ 3 FLORET SEPARATION BY: 1 = DISARTICULATION

2 = HETEROFRACTURE

3 = BASIFRACTURE

☐ 2 ☐ 0 FLORETS PER SPIKELET (mean no.)

## 10. GLUMES: (Glume Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described variety)

☐ 0 ☐ 5 MM. WIDTH      ☐ 1 ☐ 9 MM. LENGTH      ☐ 0 ☐ 9 NO. OF VEINS ON GLUMES      ☐ 2 COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = STRIPED

## 11. LEMMA: (Lemma Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described variety)

☐ 1 ☐ 1 MM. LENGTH

☐ 3 COLOR: 1 = WHITE 2 = YELLOW 3 = RED  
4 = GRAY 5 = BLACK

☐ 1 HAIRINESS OF DORSAL SURFACE: 1 = HAIRLESS  
2 = HAIRY

## 12. AWN (First floret):

☐ 1 OCCURENCE: 1 = ABSENT (Walken)  
2 = INFREQUENT (Yancey)  
3 = COMMON (Chilocco)  
4 = FREQUENT (Random)

☐ NA TYPE: 1 = NON-TWISTED 2 = TWISTED  
3 = TWISTED GENICULATE

☐ NA MM. AWN LENGTH

## 13. SEED:

☐ 2 FLORESCENCE UNDER ULTRAVIOLET LIGHT:

1 = FLORESCENT

2 = NON-FLORESCENT

☐ 2 BASAL HAIR: 1 = ABSENT (Florida 501)  
4 = SEVERAL TO NUMEROUS (Florilex)

2 = ABSENT TO FEW (Yancey)

3 = FEW TO SEVERAL (Lee)

5 = NUMEROUS (Red Rustproof)

☐ NA MM. BASAL HAIR LENGTH

☐ 3 ☐ 6 ☐ 0 GMS. PER 1,000 SEEDS (12,611 sds./lb.)

☐ MG. GROAT WEIGHT (each)

☐ % GROAT PROTEIN

☐ % GROAT OIL

## 14. INSECTS: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

☐ 0 CEREAL LEAF BEETLE      ☐ 0 BLUEGRASS BILLBUG      ☐ 0 GRAIN BUG (C. Sayi)      ☐ 0 NEMATODE (Type)

☐ 0 GREEN BUG (Biotype)      OTHER (Specify) No Testing Done

## 15. DISEASE: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

☐ 2 HALO BLIGHT

☐ 0 POWDERY MILDEW

☐ 2 SEPTORIA LEAF BLOTCH

☐ 0 SOIL-BORNE MOSIAC

☐ 0 HELMINTHOSPORIUM  
LEAF BLOTCH

☐ 2 YELLOW DWARF VIRUS

☐ 0 VICTORIA BLIGHT

☐ 2 OTHER (Specify)  
Barley Yellow

Dwarf Virus

## SPECIFY RACES TESTED:

	RACES SUSCEPTIBLE	RACES RESISTANT
<input type="checkbox"/> 1.5 CROWN RUST.....	Moderately Resistant to strains tested for in CA, WA, & NZ.	
<input type="checkbox"/> 1.5 STEM RUST.....	Moderately Resistant to strains tested for in Manitoba as of 2003	
<input type="checkbox"/> COVERED SMUT.....		
<input type="checkbox"/> LOOSE SMUT.....		

## 16. INDICATE VARIETY YOU BELIEVE MOST CLOSELY TO RESEMBLE THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT TILLERING	Charisma	LEAF COLOR	Charisma
LEAF SIZE	Monida	LEAF CARRIAGE	Charisma
SEED COLOR		SEED SHAPE	

COMMENTS:

2005 OCT 17 12:00





Plant Research

860 S Crestline,  
Othello, WA 99344  
E-mail: [progene@cbnn.net](mailto:progene@cbnn.net)

Cellular: (509) 989-0405  
Fax: (509) 488-5289  
Phone: (509) 488-3977

**Date:** September 10, 2005

**To:** Mark Hermeling  
USDA/PVPO  
Beltsville, ME

**From:** ProGene L.L.C  
Kurt Braunwart  
860 S Crestline  
Othello, WA 99344

**Subject:** PVPO Numbers 200400169 (CROA126) and 200400020 (CROA114)

Additional foliar disease data for CROA126 and CROA114

2002 Winnipeg; The Winnipeg disease screening nurseries incurred natural infections and were also artificially inoculated, providing exceptionally high crown and stem rust pressures, an intensity unlikely to be repeated in a commercial cropping environment.

CROWN RUST (Winnipeg 2002)		
Cultivar	Score(1-100%)	Rating
CROA126	50-60%	susceptible
CROA114	70%	susceptible
CROA118	70%	susceptible
CROWN RUST (CFR 2003)		
	Score(1-9)*	Rating
CROA126	4.0	moderately resistant
CROA114	5.5	moderately susceptible
CROA118	5.0	moderately susceptible
STEM RUST (Winnipeg)		
CROA126	moderately resistant to moderately susceptible	
CROA114	resistant to moderately resistant	
CROA118	resistant to moderately resistant	
SMUT (Winnipeg)		
CROA126	resistant	
CROA114	resistant	
CROA118	resistant	

\* (1= resistant 9 = highly susceptible)

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

## EXHIBIT E

## STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) New Zealand Institute For Crop & Food Research Ltd.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Croa 126	3. VARIETY NAME 126
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  Private Bag 4704 Christchurch, New Zealand	5. TELEPHONE (include area code) +64-3-325-6400	6. FAX (include area code) +64-3-325-2074
	7. PVPO NUMBER 200400169	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country ☐ YES ☒ NO

New Zealand

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☒ NO If no, give name of country

New Zealand

11. Additional explanation on ownership (If needed, use the reverse for extra space):

## PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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